AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. 1.   (Currently Amended) A method comprising:
2.   receiving, into a capacity planning tool executed in a computer system,
3. configuration information for at least one streaming media server, wherein the configuration
4. information comprises a single file benchmark and a unique file benchmark for the at least one
5. streaming media server, wherein the single file benchmark measures a streaming media server
6. capacity when all clients in a test workload are accessing a single file, and wherein the unique
7. file benchmark measures the streaming media server capacity when each client in the test
8. workload is accessing a different file;
9.   receiving, into said capacity planning tool, workload information for a workload
10. of client accesses of streaming media files from a server; and
11.   said capacity planning tool evaluating, based on said configuration information, a
12. capacity of the at least one streaming media server for supporting the workload.

1. 2.   (Original) The method of claim 1 wherein said configuration information includes
2. identification of size of memory of said at least one streaming media server.

1. 3.   (Original) The method of claim 2 wherein said configuration information further
2. includes disk configuration of said at least one streaming media server.

1. 4.   (Original) The method of claim 1 wherein said workload information includes
2. identification of number of concurrent client accesses of said streaming media files over a period
3. of time.

1. 5.   (Original) The method of claim 4 wherein said workload information further
2. includes identification of a corresponding encoding bit rate of each of said streaming media files
3. accessed.

1   6.   (Original) The method of claim 1 wherein said workload information comprises

2 information from an access log collected over a period of time.

1   7.   (Original) The method of claim 1 wherein said evaluating comprises:

2   computing a cost corresponding to resources of said at least one streaming media

3 server that are consumed in supporting the workload.

1   8.   (Original) The method of claim 7 wherein said computing said cost comprises:

2   computing a cost of consumed resources for a stream in said workload having a

3 memory access to a streaming media file; and

4   computing a cost of consumed resources for a stream in said workload having a

5 disk access to a streaming media file.

1   9.   (Original) The method of claim 1 wherein said evaluating comprises:

2   computing a service demand for said at least one streaming media server

3 supporting said workload.

1   10.   (Currently Amended) A method comprising:

2   receiving, into a capacity planning tool executed in a computer system,

3   configuration information for at least one streaming media server;

4   receiving, into said capacity planning tool, workload information for a workload

5   of client accesses of streaming media files from a server;

6   said capacity planning tool evaluating a capacity of the at least one streaming

7   media server for supporting the workload;

8   wherein said evaluating comprises computing a service demand for said at least

9   one streaming media server supporting said workload; and

10   wherein said computing said service demand comprises computing:

11
$$Demand = \sum_{i=1}^{K_W} N_{X_{W_i}}^{memory} \times \cos t_{X_{W_i}}^{memory} + \sum_{i=1}^{K_W} N_{X_{W_i}}^{disk} \times \cos t_{X_{W_i}}^{disk} ,$$

12   wherein the workload W comprises $X_W = X_1,..., X_{k_w}$ set of different encoded bit

13   rates of files served in the workload, $N_{X_{W_i}}^{memory}$ is a number of streams in the workload having a

14   memory access to a subset of files encoded at X_{W_i} Kb/s, $\cos t_{X_{W_i}}^{memory}$ is a cost of consumed

15   resources for a stream having a memory access to a file encoded at X_{W_i} Kb/s, $N_{X_{W_i}}^{disk}$ is a number

16   of streams in the workload having a disk access to a subset of files encoded at X_{W_i} Kb/s, and

17   $\cos t_{X_{W_i}}^{disk}$ is a cost of consumed resources for a stream having a disk access to a file encoded at

18   X_{W_i} Kb/s .

1   11.   (Original) The method of claim 1 further comprising:

2   receiving at least one service parameter.

1   12.   (Original) The method of claim 11 wherein said at least one service parameter

2   comprises information identifying at least one performance criteria desired to be satisfied by said

3   at least one streaming media server under the workload.

1   13.   (Original) The method of claim 12 wherein said at least one performance criteria
2   specifies a minimum percentage of time that said at least one streaming media server is desired
3   to be capable of supporting the workload.

1   14.   (Original) The method of claim 11 wherein said at least one service parameter
2   comprises information identifying a constraint.

1   15.   (Original) The method of claim 11 wherein said evaluating further comprises:
2   evaluating whether said at least one streaming media server satisfies said at least
3   one service parameter.

1   16.   (Currently Amended) Computer-executable software code stored to a computer-
2   readable medium, the computer-executable software code comprising:
3   code executable in a computer system for receiving workload information for a
4   workload of client accesses of streaming media files from a server; and
5   code executable in the computer system for employing a cost function derived for
6   at least one system configuration from a single file benchmark and a unique file benchmark for
7   evaluating a capacity of the at least one system configuration for supporting the workload,
8   wherein the single file benchmark measures a streaming media server capacity when all clients in
9   a test workload are accessing a single file, and wherein the unique file benchmark measures the
10 streaming media server capacity when each client in the test workload is accessing a different
11 file.

1   17.   (Currently Amended) Computer-executable software code of claim 16 further
2   comprising:
3   code executable in the computer system for receiving configuration information
4   for said at least one system configuration.

1   18.   (Original) Computer-executable software code of claim 16 wherein said code for

2   evaluating a capacity of at least one system configuration for supporting the workload comprises:

3   code for determining whether said at least one system configuration is capable of

4   supporting said workload in accordance with at least one service parameter.

1   19.   (Original) Computer-executable software code of claim 18 wherein said at least

2   one service parameter comprises information identifying at least one performance criteria desired

3   to be satisfied by said at least one system configuration under the workload.

1   20.   (Currently Amended) Computer-executable software code of claim 16 further

2   comprising:

3   code <u>executable in the computer system</u> for generating a workload profile for the

4   received workload information.

1   21.   (Original) Computer-executable software code of claim 20 wherein the received

2   workload information comprises an access log collected over a period of time.

1   22.   (Original) Computer-executable software code of claim 20 wherein said workload

2   profile comprises:

3   for a plurality of different points in time, identification of a number of concurrent

4   client accesses, wherein the number of concurrent client accesses are categorized into

5   corresponding encoding bit rates of streaming media files accessed thereby and are further sub-

6   categorized into either memory or disk accesses.

1   23.   (Original) Computer-executable software code of claim 16 wherein said code for

2   evaluating comprises:

3   code for generating a service demand profile for said at least one system

4   configuration.

1   24.   (Original) Computer-executable software code of claim 16 wherein said code for

2   evaluating a capacity of at least one system configuration comprises:

3   code for evaluating a capacity of a plurality of different system configurations and

4   determining an optimal one of said plurality of different system configurations for supporting

5   the workload.

1   25.   (Previously Presented) A system comprising:

2   means for receiving configuration information for a plurality of different system

3   configurations, wherein the configuration information comprises, for each of the plurality of

4   different system configurations, a corresponding single file benchmark and unique file

5   benchmark, wherein said single file benchmark measures capacity of the corresponding system

6   configuration for serving a population of clients that all access a same file, wherein said unique

7   file benchmark measures capacity of the corresponding system configuration for serving a

8   population of clients that all access different files;

9   means for receiving workload information for a workload of client accesses of

10   streaming media files from a server; and

11   means for evaluating, based on the configuration information, the capacity of each

12   of said plurality of different system configurations for supporting said workload.

1   26.   (Original) The system of claim 25 further comprising:

2   means for determining an optimal one of said plurality of different system

3   configurations for supporting said workload.

1   27.   (Original) The system of claim 26 wherein said means for determining an optimal

2   one of said plurality of different system configurations for supporting said workload determines a

3   most cost-effective one of said plurality of different system configurations for supporting said

4   workload according to determined service parameters.

1   28.   (Currently Amended) A method <u>executed by a computer system,</u> comprising:

2   receiving workload information identifying an expected workload of client

3 accesses of streaming media files from a server over a period of time; and

4   determining a service demand profile for at least one server configuration under

5 evaluation for evaluating a capacity of said at least one server configuration for supporting the

6 expected workload, wherein said service demand profile comprises a plurality of pairs of

7 information, each pair comprising an identification of a duration of time in said period of time

8 and a corresponding computed resource cost of the at least one server configuration for serving

9 the workload over the duration of time.

1   29.   (Original) The method of claim 28 further comprising:

2   receiving at least one service parameter.

1   30.   (Original) The method of claim 29 wherein said at least one service parameter

2 comprises information identifying at least one performance criteria desired to be satisfied by said

3 at least one server configuration under the expected workload.

1   31.   (Original) The method of claim 29 further comprising:

2   evaluating the determined service demand profile for the at least one server

3 configuration to determine whether the at least one server configuration satisfies the received at

4 least one service parameter.

1   32.   (Currently Amended) A system comprising:

2   one or more CPUs;

3   a media profiler ~~operable~~ executable on the one ore more CPUs to receive a client

4 access log collected over a period of time for a service provider's site and generate a workload

5 profile for the service provider's site, wherein said workload profile comprises, for a plurality of

6 different points in time, identification of a number of concurrent client accesses, wherein the

7 number of concurrent client accesses are categorized into corresponding encoding bit rates of

8 streaming media files accessed thereby and are further sub-categorized into either memory or

9 disk accesses; and

10   a capacity evaluator ~~operable~~ executable on the one ore more CPUs to receive the

11 generated workload profile and evaluate at least one server configuration's capacity for

12 supporting the site's workload.

1   33   (Currently Amended) The system of claim 32 wherein said capacity evaluator is

2 further ~~operable~~ executable on the one ore more CPUs to receive configuration information for

3 said at least one server configuration.

1   34.   (Original) The system of claim 32 wherein in evaluating said at least one server

2 configuration's capacity, said capacity evaluator determines whether said at least one server

3 configuration is capable of supporting the site's workload in accordance with at least one service

4 parameter.

1   35.   (Original) The system of claim 34 wherein said at least one service parameter

2 comprises information identifying at least one performance criteria desired to be satisfied by said

3 at least one server configuration under the site's workload.

      36.   (Canceled)

1   37.   (Original) The system of claim 32 wherein in evaluating said at least one server

2 configuration's capacity, said capacity evaluator is operable to generate a service demand profile

3 for said at least one server configuration.

1   38.   (Previously Presented) The method of claim 1 further comprising:

2   deriving, by said capacity planning tool, from the single file benchmark and

3 unique file benchmark, a cost function for measuring the capacity of the at least one streaming

4 media server for supporting the workload.

1   39.   (Previously Presented) The method of claim 1 wherein said evaluating comprises

2 computing a service demand for said at least one streaming media server supporting said

3 workload; and

4   wherein said computing said service demand comprises computing:

5
$$Demand = \sum_{i=1}^{K_W} N_{X_{W_i}}^{memory} \times \cos t_{X_{W_i}}^{memory} + \sum_{i=1}^{K_W} N_{X_{W_i}}^{disk} \times \cos t_{X_{W_i}}^{disk} ,$$

6   wherein the workload W comprises $X_W = X_1,...,X_{k_w}$ set of different encoded bit

7 rates of files served in the workload, $N_{X_{W_i}}^{memory}$ is a number of streams in the workload having a

8 memory access to a subset of files encoded at X_{W_i} Kb/s, $\cos t_{X_{W_i}}^{memory}$ is a cost of consumed

9 resources for a stream having a memory access to a file encoded at X_{W_i} Kb/s, $N_{X_{W_i}}^{disk}$ is a number

10 of streams in the workload having a disk access to a subset of files encoded at X_{W_i} Kb/s, and

11 $\cos t_{X_{W_i}}^{disk}$ is a cost of consumed resources for a stream having a disk access to a file encoded at

12 X_{W_i} Kb/s .

40-41. (Canceled)

1   42.   (Previously Presented) The method of claim 28 further comprising:

2   deriving, from a single file benchmark and unique file benchmark of the at least

3 one server configuration, a cost function for computing resource cost of the at least one server

4 configuration; and

5   employing said cost function for computing the computed resource cost of the at

6 least one server configuration for serving the workload over the duration of time.

43.   (Previously Presented) The system of claim 37 wherein said service demand profile comprises a plurality of pairs of information, each pair comprising identification of a duration of time in said period of time and a corresponding computed resource cost of the at least one server configuration for serving the workload over the duration of time.

44.   (Currently Amended) A method executable by a computer system, comprising:

determining results of a single file benchmark for each of a plurality of encoding bit rates of a single file served by at least a first streaming media server configuration, wherein the result of the single file benchmark for a given encoding bit rate identifies the maximum number of concurrent streams of the single file that the at least a first streaming media server configuration can supply to a population of clients at the given encoding bit rate;

determining results of a unique file benchmark for each of said plurality of encoding bit rates, wherein the result of the unique file benchmark for a given encoding bit rate identifies the maximum number of concurrent streams of different files that the at least a first streaming media server configuration can supply to the population of clients at the given encoding bit rate;

deriving, from the results of the single file benchmark and unique file benchmark, a cost function;

receiving, into a capacity planning tool, workload information for a workload of client accesses of streaming media files from a server; and

using, by the capacity planning tool, the cost function for said at least a first streaming media server configuration for evaluating a capacity of the at least a first streaming media server configuration for supporting the workload.